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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Clinton Scott Waldock

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EXAMINER

BADR, HAMID R

ART UNIT

PAPER NUMBER

1781

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/567,896	WALDOCK, CLINTON SCOTT	
	Examiner	Art Unit	
	HAMID R. BADR	1781	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants' amendment filed 4/18/2011 is acknowledged.

The rejection of claims 1-16 and 18-20 under 35 U.S.C. 112 second paragraph is withdrawn per amendment.

The Declaration by Mr. Clinton Scott Waldock dated 3/29/2011 has been considered.

Claims 1-16 and 18-20 are being considered on the merits.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McNamee et al. (GB 2,291,578; hereinafter R1) in view of Pasternak (US 4,670,271; hereinafter R2).

3. R1 discloses a method for making baked products. R1 discloses a method for applying an edible marking substance to a portion of the surface of the product prior to baking. (Abstract)

4. R1 discloses that the product is then baked so that a differential surface coloration is developed at the position of and as a consequence of the application of the

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marking substance. R1 discloses that the marking substance comprises sugar, proteins and aqueous or organic carriers. (page 2 line 27 to page 3 line 4).

5. R1 discloses that the marking substance may be applied to the crust by direct application for example with a brush, or by spraying (e.g. with a jet printer), with or without the use of a stencil. (End page 3 to top page 4).

6. R1 discloses that the marking mixture may be applied to a dough which is subsequently fully baked. It may be applied to a part-baked dough, or after the dough is part baked where appropriate. (page 4, lines 3-9)

7. R1 also discloses that the marking material should be in a liquid form and will comprise sugar, starch or protein or mixtures thereof and the carrier may be aqueous or organic medium, the latter is preferably alcohol. (page 4, lines 15-24 and claim 5)

8. It is noted that the surface of an unbaked dough, as disclosed by R1, comprises hydrophilic materials including starch, protein, sugar, water etc. It is also noted that "beading" as recited in claim 1 is the formation of tiny droplets of ink which prevents the ink to uniformly spread on the dough surface. The "beading" is caused by the high surface tension between the ink and the surface to which the ink is applied i.e. dough surface. However, since R1 implicitly recognizes the surface tension phenomenon and discloses that the edible marking material is aqueous or organic material such as ethanol (i.e. low surface tension material miscible with water), then it is obvious that the ink should have low surface tension as recited in amended claim 1.

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9. While R1 discloses the marking materials and also methods of applying the marking substances onto the dough surface before baking the product, R1 is silent regarding the edible inks comprising the components as presently claimed.

10. R2 discloses an edible ink to be used for printing on foodstuffs consisting of water (20-60%), glycerol (5-25%), propylene glycol (10-35%), sucrose (1-5%), corn syrup (1-5%), titanium dioxide (5-35%), and food coloring (less than 1%). (Col. 16, lines 40-60). It is noted that titanium dioxide is a coloring agent which creates white hue.

11. It is also noted that the ranges as disclosed by R2 and as presently claimed overlap. It is also noted that the chemical entities, as disclosed by R2, are basically the entities as presently claimed.

12. R2 discloses examples of food colorings which can be incorporated into the edible ink. FDC yellow no. 5 and FDC red no. 3 are given as examples. (Col. 16, lines 60-61). Given that food colorings can be incorporated into the edible ink, It would be obvious to incorporate the dyes and pigments as presently claimed in the edible ink.

13. Given that R2 teaches of an ink formulation comprising ranges of materials which clearly overlap the presently claimed ranges, it would be obvious to those of skill in the art to change the component ranges depending on the type of the coloring material and the solubility of a specific dye in the carrier system. For the same reason, the chemical entities and their ranges would obviously be manipulated to change the surface tension of the resulting ink depending the end use of the ink. The modification of the base formulation for either increasing or decreasing the surface tension of the resulting ink

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would then be a matter of optimizing the ingredients as disclosed by R2 and well within the skill of the art.

14. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to follow the teachings of R1 to apply an edible ink to the surface of a dough before baking and optimize the components of the edible ink, as taught by R2, to create low surface tension inks with minimal ink beading on dough surface as motivated by the aqueous or water soluble organic solvent disclosed by R1. One would do so to be able to apply food coloring of various hues and physical properties, having low surface tension, to the surface of unbaked dough material. Absent any evidence to contrary and based on the teachings of the cited reference, there would be a reasonable expectation of success in formulating an edible ink to be applied to the surface of bakery products.

15. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over McNamee et al. (GB 2,291,578; hereinafter R1) and Pasternak (US 4,670,271; hereinafter R2), further in view of Errera (US 2004/0040446; hereinafter R3).

16. Disclosures by R1 and R2 are hereby incorporated by reference as applied to claim 1 above.

17. R1 is silent regarding the design of a stamping devise for marking baked products.

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18. R3 discloses a stamping device with basically similar features as presently claimed. The stamping device is used to mark the surface of food items with specific reference to unbaked doughs.

19. Therefore, it would have been obvious to design a stamping device, as disclosed by R3, to be used in marking the dough before baking as taught by R1.

20. In summary, R1 clearly discloses the concept and method of applying marking materials, of low surface tension, to the surface of unbaked dough. R2 discloses compositions of edible inks having ranges which clearly overlap the claimed ranges. R3 discloses a stamping device with features as presently claimed. Therefore, it would have been obvious to an ordinary skill in the art; to mark the surface of unbaked dough product as disclosed by R1 using the edible ink compositions optimized for low surface tension using the components disclosed by R2 while the marking is applied using a device similar to what is disclosed by R3. Absent any evidence to contrary and based on the combined teachings of the cited references, there would be a reasonable expectation of success to apply an edible ink of low surface tension to the surface of unbaked dough so that the baked product is clearly marked with a picture, message, brand name, name, logo, etc.

Response to Arguments

Applicants' arguments have been thoroughly reviewed. These arguments are not deemed persuasive for the following reasons.

1. Applicants declare that they discovered ethanol solvent and glycerol content of the printing ink lowers surface tension to prevent beading on application to the baked goods.

a. Claim 1 recites that the ink is applied to the dough (i.e. unbaked dough), and according to Mr. Waldock's declaration; it is applied to baked goods. However, physical properties of ethanol and glycerol were both known in the art. R1 specifically discloses the use of alcohol with specific reference to ethanol. So, it was only necessary to increase or decrease the concentrations of these compounds to see how surface tension changes. The optimization technique is well within the skill of the art.

2. Applicants declare that without glycerol dye pigment dries as powder during baking.

a. Glycerol was known in the art, at the time the invention was made, as a humectant. Furthermore, R2 incorporates glycerol at 5-25%. Glycerol is water soluble. Being a humectant, it serves the same purpose of keeping the materials moist. The concentration is obviously optimized for various applications.

3. Applicants declare that an ink with a lower surface tension is less likely to form beads when applied to a baking product and therefore, does not bleed into the surrounding areas.

a. The disclosure of R1 implicitly discloses the surface tension. For that reason, R1 recommends using aqueous solvents such as water and ethanol. Both of these solvents show low surface tension in aqueous environments such as the dough surface.

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4. Applicants argue that the method and ink of R1 does not appear to be useable to show complex patterns, pictures and trademarks as can the ink of the present invention.

a. The rejection is an obviousness type rejection involving other references. Therefore, what is being claimed is obvious over the teachings of R1 and R2. The components of the ink as revealed by R2 needed to be manipulated to create an aqueous marking substance as suggested by R1 and be applied to a dough before baking as disclosed by R1.

5. Applicants argue that there were several considerations needed to be addressed before formulating an edible ink, for instance the materials must be non toxic, edible, inexpensive and available.

a. For a food product, when the lubricant on a processing machine is required to be food grade, it would be very obvious to consider non-toxic edible materials on a product which is eaten by people. The cost and availability of the materials are also primary considerations consistent with any industrially applicable process. Availability of a material does not add to patentability.

6. Applicants argue that there is no suggestion in R2 that low surface tension is important before baking, and that in R2; the surface tension is not a consideration.

a. Firstly, the surface tension is implicitly disclosed by R1. R2 is basically teaching of the components and the ranges of the food ink. However, surface tension is a relative concept. For instance, oil in water has a high surface tension. However, the same oil in an emulsion has much lower surface tension.

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b. secondly, the materials used should be compatible with the materials comprising the food surfaces on which the ink is supposed to be used. Therefore, when the food surface comprises water soluble, dispersible or hydrophilic materials, the ink would obviously be formulated of those materials which are either soluble, dispersible or hydrophilic so that beading and bleeding is minimized.

7. Applicants argue they have found that by altering the solvent composition, the surface tension of the ink can be lowered, thus an ink with lower surface tension is less likely to form beads when applied to a bakery product.

a. The requirement for a low surface tension marking material for unbaked dough is implicitly disclosed by R1. R1 clearly discloses aqueous marking materials or organic materials such as ethanol for that purpose. Both categories of marking materials have low surface tension, therefore, beading is prevented when applied on the dough surface.

8. Applicants argue that propylene glycol as disclosed by R2 has a high surface tension.

a. As explained above, surface tension is a phenomenon which takes place between two immiscible materials; e.g. water and oil. So saying that propylene glycol has high surface tension, does not clarify the issue unless it is indicated where it is used. However, as the name implies, it is a glycol, therefore, a hydrophilic material. It is miscible with water, glycerol and ethanol. Therefore, in the vicinity of water or ethanol, it has low surface tension. This was also known in the art.

It should also be realized that the invention as presently claimed is obvious over the teachings of the cited reference. The issue is not the similarity of the inks of the invention and that of R2, however, optimized formulations, within the skill of the art, are expected to produce low surface tension materials for marking the surface of a bakery dough.

9. Applicants argue that overlapping ranges of ingredients do not hold true for sucrose and food coloring because sucrose as claimed comprises 6-60% by volume and coloring agent comprises 1-20% while R2 requires sucrose at 1-5% and food coloring at 1%.

a. It appears that applicants are overlooking the corn syrup (1-5%), and titanium dioxide (5-35%). Corn syrup is a mixture of sugars, therefore, the sugar disclosed by R2 is 2-10% (overlapping the presently claimed range). Furthermore, titanium dioxide is a coloring agent (produces white hues), and as seen, it overlaps the range as presently claimed for coloring agent.

10. Applicants argue that claims 16, 19, and 20 are not rejected by prior art.

a. These claims are clearly disclosed by R1, and therefore, rejected. Please see paragraphs 5, 6 and 7; which are disclosures by R1. However, the pending, non-final Office action clearly states that claims 1-16 and 18-20 are being considered. The rejection of claims "1-15 " is a typo, and is hereby corrected to '1-16 and 19-20'. Furthermore, claims 16, 19 and 20 do not present any subject matter not disclosed by the references cited. The Office action summary, of the pending Office action, also

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indicates that claims 1-16 and 16-20 were rejected. The inconvenience experienced by applicants is regretted.

Conclusion

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAMID R. BADR whose telephone number is (571)270-3455. The examiner can normally be reached on M-F, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/
Supervisory Patent Examiner, Art Unit 1781

HAMID R BADR
Examiner
Art Unit 1781